

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001446620003-5

TUROVSKY, V. [Tyurovskiy, V.]; SARKINA, T. V. [Sakirova, T.V.],  
Korolev, Russia.

Use of proteinaceous growth promoting substances in cattle breeding.  
Khimi proizvodstva, no. 1, 1962, Jan-Mar '62. (MIRA 18:4)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001446620003-5"

SABIROVA, G.V. [Sabirova, H.V., kand.khim.nauk; FORUTSKIY, G.V. [Poruts'kyi, H.V.], kand.biol.nauk; TERENT'YEVA, V.N. [Terent'ieva, V.N.]; SIMUROVA, Ye.I. [Symurova, O.I.]

Improving the quality of the Lvov petroleum growth promoting substances. Khim.prom. [Ukr.] no.2:32-33 Ap-Je '65. (MIRA 18:6)

MAN'KOVSKAYA, N.K.; SABIROVA, G.V.; Prinimala uchastiyas: SYTNIK, M.Yu.,  
laborant

Use of new demulsifiers in neutralizing oils. Naft. i gaz.  
prom. 3:51-53 Jl-S '65. (MIRA 18:11)

SABIROVA, Kh.

Solving a Hill-type linear differential equation by the small-parameter method with an accuracy up to second order included.  
Izv. AN Uz. SSR. Ser. fiz.- mat. nauk no.3:67-77 '58. (MIRA 11:10)

1. Ferganskiy gosudarstvennyy pedagogicheskiy institut.  
(Differential equations, Linear)

80236

S/166/60/000/02/03/013

16.3400

AUTHOR: Sabirova, Kh.TITLE: On the Representation of the Solutions of Some Linear Systems of Differential Equations by Series in Terms of Powers of the Parameter

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1960, No.2, pp 21-33

TEXT: The author considers the linear system

$$(1) \quad \frac{dy_k}{dx} = \sum_{j=1}^n P_{kj}(x, \mu)y_j, \quad k=1, 2, \dots, n,$$

where the functions  $P_{kj}$  for all  $x \in [x_1, x_2]$  are holomorphic in  $\mu$ . The coefficients of the series developments of the  $P_{kj}$  in terms of powers of  $\mu$  are assumed to be continuous and bounded on  $[x_1, x_2]$ . For  $\mu = 0$  let (1) change to

$$(3) \quad \frac{dy_k}{dx} = \sum_{j=1}^n P_{kj}^{(0)}(x)y_j, \quad k=1, \dots, n.$$

It is shown that if the fundamental system of the solutions of (3) is known, then the continuous solutions  $y_1, y_2, \dots, y_n$  of (1) which satisfy the initial

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On the Representation of the Solutions of Some  
Linear Systems of Differential Equations by  
Series in Terms of Powers of the Parameter

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conditions  $y_i(x_0) = b_i$ , for sufficiently small  $|m|$  can be constructed as power series in  $m$ . Then the analogous assertion is made for the differential equation

$$(9) \quad y_1^{(n)} = P_1(x, m)y_1 + \dots + P_n(x, m)y_1^{(n-1)}.$$

There is 1 Soviet reference.

ASSOCIATION: Ferganskiy pedinstitut im. Ulugbek (Fergana Pedagogical Institute im. Ulushek)

SUBMITTED: June 26, 1959

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S/166/60/000/004/002/008  
C111/C222

AUTHOR: Sabirova, Kh.

TITLE: The Series Development of Some Special Functions in Terms of Powers of the Index

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR. Seriya fiziko-matematicheskikh nauk, 1960, No.4, pp.38-43.

TEXT: Seeking the solution of the Hermitean equation,

$$(1) \quad y'' - 2xy' + 2\lambda y = 0$$

as a series

$$(2) \quad y = \sum_{i=0}^{\infty} y_i \lambda^i,$$

then one obtains the system

$$(3.0) \quad y_0'' - 2xy_0' = 0,$$

$$(3.1) \quad y_1'' - 2xy_1' = -2y_0, \dots$$

$$(3.m) \quad y_m'' - 2xy_m' = -2y_{m-1}, \dots$$

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C111/C222

The Series Development of Some Special Functions in Terms of Powers  
of the Index

for the determination of the  $y_0, y_1, \dots$ . The system is solved successively  
with the initial conditions

$$(\alpha) \quad y_{01}(0) = 1, \quad y'_{01}(0) = 0, \quad y_{m1}(0) = y'_{m1}(0) = 0 \quad m=1, 2, \dots$$

$$(\beta) \quad y_{02}(0) = 0, \quad y'_{02}(0) = 1, \quad y_{m2}(0) = y'_{m2}(0) = 0$$

At first the solution of (3.0) reads  $y_{01} = 1, \quad y_{02} = \int_0^x e^{z^2} dz$ . Then the ✓

solutions of (3.1), (3.2) etc. are obtained by a variation of the constants.

In this manner it is stated that

$$y_1 = 1 + 2 \int_0^x e^{-t^2} \left[ \int_0^x e^{z^2} dz dt - \int_0^x e^{-t^2} dt \cdot \int_0^x e^{z^2} dz \right] + \\ 2 \int_0^x e^{-t^2} y_{11} \left[ \int_0^x e^{z^2} dz dt - \int_0^x e^{-t^2} y_{11} dt \cdot \int_0^x e^{z^2} dz \right] + \dots$$

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The Series Development of Some Special Functions in Terms of Powers of the Index

is that solution of (1) which satisfies the initial conditions  $y_1(0) = 1$ ,  $y'_1(0) = 1$ . Likewise the solution  $y_2$  is constructed with the conditions  $y_2(0) = 0$ ,  $y'_2(0) = 1$ .

The same method is used for the power series development of the solutions of

$$y'' + \frac{1-x}{x} y' + M \frac{1}{x} y = 0, \quad y'' + \frac{2x}{x^2-1} y' - M(M+1) \frac{1}{x^2-1} y = 0$$

and

$$y'' + \frac{x}{x^2-1} y' - M \frac{1}{x-1} y = 0.$$

There is 1 Soviet reference.

ASSOCIATION: Ferganskiy gospedinstitut (Fergana State Pedagogical Institute)

SUBMITTED: January 22, 1960

Card 3/3

SABIROVA, M.B.

Pregnancy following a hydatid mole. Nauch. trudy SamMI  
22:144-150 '63.

Biological and histomorphological methods of diagnosing  
early pregnancies, a hydatid mole and chorionepithelioma.  
Ibid.:151-156 (MIRA 17:9)

1. Iz kafedry akusherstva i ginekologii Samarkandskogo  
meditsinskogo instituta.

S/079/61/031/003/008/013  
B118/B207

AUTHORS: Nesterov, L. V. and Sabirova, R. A.

TITLE: Derivatives of phosphorous acid. I. Esters of salicyl phosphorous acid and some of its properties

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 3, 1961, 897-901

TEXT: Proceeding from the papers of I. A. Cade and W. Gerrard on the synthesis of the butyl ester of salicyl phosphorous acid, the authors synthesized 6 alkyl esters of salicyl phosphorous acid (Table) by reacting its chloride with the respective alcohol and dimethyl aniline in absolute ether. If the esters react with the alcohols, the order of addition of the components exerts an essential effect upon the yield of the initial product; it is necessary to add the alcohol to the acid chloride. The constants of the esters were determined after three-, four-, and even five-fold distillation; however, the 93% yield obtained by I. A. Cade and W. Gerrard already after distillation.

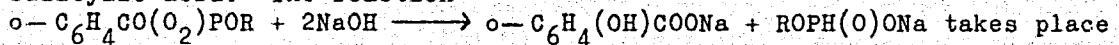
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S/079/61/031/003/008/013

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Derivatives of ...

was not attained since a partial polymerization of the esters could not be avoided when they were heated. The average difference between the found and the calculated values of molecular refraction is 1.12; the esters were thoroughly purified so that an exaltation was caused by the salicylic acid radical, since exaltation is also observed with the dialkyl derivatives of salicylic acid (1.09), which is very similar to that found by the authors. All esters are slightly saponified by the moisture of air and separate salicylic acid. The reaction



in the case of solution in cold dilute alkali lye. Since alkali phosphite salts saponify very slowly with dilute alkali lyes in the cold, this reaction was used for determining the equimolecular weights of the esters (titration with phenol phthalein). The strong heating that accompanies the reaction of cuprous chloride with the esters yields vaseline-like products. If the esters are mixed with alcohols, a strong heating occurs after some time under the separation of salicylic acid and the respective trialkyl phosphite  $\text{ROP(OR')}_2$ . Both oxygen bonds linking the phosphorus with the salicylic acid radical, are split at the same time, or almost at the same

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Derivatives of ...

time; one mole of alcohol separates 50% of the salicylic acid, and the addition of the second mole liberates the entire salicylic acid. All esters, apart from methyl ester, decompose when heated (each of them at a specific temperature) under vigorous separation of the respective olefin. There are 1 table and 18 references: 5 Soviet-bloc and 13 non-Soviet-bloc. The 3 references to English-language publications read as follows: F. W. Hoffmann, R. J. Ess, T. C. Simmons, R. S. Hanzel, J. Am. Chem. Soc., 78, 6414 (1956); J. A. Cade, W. Gerrard, J. Chem. Soc., 2030, 1954; J. A. Cade, W. Gerrard, Chem. a. Ind., 1954, 402.

ASSOCIATION: Kazanskiy khimiko-tehnologicheskiy institut (Kazan' Institute of Chemical Technology)

SUBMITTED: March 12, 1960

Card 3/4

L 27769-66 EWP(j)/EWT(m) RM

ACC NR: AP6018500

SOURCE CODE: UR/0079/65/035/011/1976/1980

25  
B

AUTHOR: Nesterov, L. V.; Sabirova, R. A.

ORG: Institute of Organic Chemistry, AN SSSR, Kazan' (Institut organicheskoy khimii  
AN SSSR)TITLE: Derivatives of phosphorous acid. V. Mixed anhydrides of salicylphosphorous  
and carboxylic acids and some of their properties

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 1976-1980

TOPIC TAGS: phosphorous acid, organic synthetic process, carboxylic acid, alcohol,  
nonmetallic organic derivativeABSTRACT: Continuing a study of derivatives of salicylphosphoric acid with  
electronegative radicals, the authors synthesized five mixed anhydrides of it  
with certain carboxylic acids. The nucleophilic character of the phosphorus  
atom in the anhydrides is so reduced that none of them enter into an Arbuzov  
reaction with methyl iodide. Acetosalicylphosphorous anhydride (2-acetoxy-5,6-  
benzo-1,2,3-dioxephosphorinone-4) was used as the model for a study of the  
properties of the mixed anhydrides. Acyl derivatives of salicylphosphorous acid  
react with hydrogen chloride, acetic acid, and one mole of alcohol, splitting  
out the acyl radical. The products of the reaction of one mole of the anhydride  
and three moles of ethanol represented a complex mixture of alcoholysis products  
and products of their further transformations. In reactions with phenol, acyl  
derivatives and esters of salicylphosphorous acid split out salicylic acid.  
The acyl derivatives of salicylphosphoric acid decompose spontaneously when  
heated, forming anhydrides of carboxylic acid and a resinous mass. Orig. art.  
has 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 13Nov64 / ORIG REF: 006 / OTH REF: 001

Card 1/1 C6

UDC: 547.26118/547.298

L 27756-66 EWT(m)/EWP(j) RM  
ACC NR: AF6018507

SOURCE CODE: UR/0079/65/035/011/2006/2009

25  
B

AUTHOR: Nesterov, L. V.; Sabirova, R. A.

ORG: Institute of Organic Chemistry, AN SSSR, Kazan' (Institut organicheskoy khimii  
AN SSSR)

TITLE: Derivatives of phosphorous acid. IV. New esters of salicylphosphorous acid

SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 2006-2009

TOPIC TAGS: phosphorous acid, organic synthetic process, ester, nonmetallic  
organic derivative

ABSTRACT: A number of new esters of salicylphosphorous acid were synthesized. The exaltation of the molecular refraction of esters of salicylphosphorous acid was corrected on the basis of measurements of 13 esters to  $E_{MR} = 1.07$ . All the esters of salicylphosphorous acid obtained, except for the phenyl and trichloroethyl esters, react with methyl iodide, yielding the corresponding alkyl iodides and the salicylderivative of methylphosphinic acid. Esters of salicylphosphorous acid react with halogens; the phenyl ester forms stable adducts with chlorine and bromine, while the trichloroethyl ester forms a stable adduct with chlorine. Decomposition of the esters by heating is accompanied by the liberation of olefinic compounds (in cases when this is possible) or of hydrolysis products. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 13Nov64 / ORIG REF: 003 / OTH REF: 002

Card 1/1

QO

UDC: 547.587.11:546.183

NESTEROV, L.V.; SABIROVA, R.A.

Derivatives of phosphorous acid. Part 2: Arbuzov rearrangement  
of esters of salicylphosphorous acid. Zhur. ob. khim. 31 no.7:  
2358-2362 Jl '61. (MIRA 14:7)

1. Kazanskiy khimiko-tehnologicheskiy institut imeni S.M.  
Kirova.  
(Phosphorous acid)

NESTEROV, L.V., SABIROVA, R.A.

Reaction of dicarboxylic acids with menshutkin acid chlorides."

*Khimiya i Primeneniya Fosfororganicheskikh Soedinenii (Chemistry and application of organophosphorus compounds)* A. Ye. AZHIDOV, Ed.  
Publ. by Kazan Affil. Acad. Nauk. USSR, Moscow 1962, 432 pp.

Collection of complete papers presented at the 1959 Kazan Conference on  
Chemistry of Organophosphorus Compounds.

S/020/63/148/005/018/029  
B117/B186

AUTHORS: Nesterov, L. V., Sabirova, R. A., Krepsheva, N. Ye.,  
Mutalapova, R. I.

TITLE:  $\beta$ -Hydroxy-alkyl-alkylene phosphites -- a new type of phosphorous acid esters

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 5, 1963, 1085 - 1087

TEXT:  $\beta$ -Hydroxy-ethyl-ethylene phosphite (2-(2'-hydroxyethoxy)-1,3,2-dioxaphospholane (I) was obtained unexpectedly instead of  $\beta$ - $\beta'$ -dihydroxy-triethyl phosphite by treating 1 mole ethyl ester of phosphorous salicylic acid with 2 moles ethylene glycol. This new type of phosphite, the first of a series, is a crystalline, slightly evil-smelling substance with its melting point at 50°C. It can be distilled in vacuo without decomposition; boiling point 86°C (9 mm Hg); it is easily soluble in alcohol, dioxane, warm ether and slightly soluble in benzene, benzine, and cold ether, and decomposes with water; it can best be purified by recrystallization from warm ether solutions after cooling to -85°C; it reacts with copper (I) salt and sulfur under self-heating. The structure was confirmed by 7 different types of synthesis. Additionally, the following homologs of I were obtained.

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 $\beta$ -Hydroxy-alkyl-alkylene...

$\beta$ -hydroxy- $\alpha,\alpha,\beta$ -trimethopropylpinaconylene-phosphite (2-(2'-hydroxy-1',1',2'-trimethopropoxy)-4,4,5,5-tetramethyl-1,3,2-dioxaphospholane (II), melting point 88 - 89°C, obtained from pinacol;  $\beta$ -hydroxy- $\alpha$ -methopropylpseudo-butylene phosphite (2-(LD-erythro-2'-hydroxy-1'-methopropoxy)-cis-4,5-dimethyl-1,3,2-dioxaphospholane) (III), melting point 82 - 85°C, obtained from mezo-butane diol-2,3; (pinaconylene designates the bivalent radical  $-\text{C}(\text{CH}_3)_2\text{C}(\text{CH}_3)_2$ , and pseudobutylene the radical  $-\text{CH}(\text{CH}_3)\text{CH}(\text{CH}_3)$ ). The two homologs of (I) are crystalline substances, better soluble in organic solvents, than (I). They are decomposed by water. Alcohol hydroxyls of (I), (II), and (III) can be determined easily by the Chugayev-Tserevetinov method. The possibility of tautomerism was refuted by the synthesis of 2 isomers: hydroxyethylpinaconylene phosphite (2-(2'-hydroxyethoxy)-4,4,5,5-tetramethyl-1,3,2-dioxaphospholane) (IV) and  $\beta$ -hydroxy- $\alpha,\alpha,\beta$ -tri-methopropylethylene phosphite (2(2'-hydroxy-1'-1',2'-trimethopropoxy)-1,3,2-dioxaphospholane (V)). (IV) and (V) proved to be two different substances : (IV) is a viscous liquid which decomposes on distillation and which does not crystallize at temperatures above -40°C; below -40°C it solidifies to a glassy mass. (V) is also a viscous liquid, crystallizing completely at 0°C and melting again at 20°C. The elementary analysis of

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$\beta$ -Hydroxy-alkyl-alkylene...

S/020/63/148/005/018/029  
B117/B106

all compounds gave satisfactory results.

ASSOCIATION: Institute organicheskoy khimii Akademii nauk SSSR, Kazan'  
(Institute of Organic Chemistry of the Academy of Sciences USSR,  
Kazan')

PRESENTED: July 12, 1962, by A. Ye. Arbuzov, Academician

SUBMITTED: July 9, 1962

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SABIROVA, R. D.

USSR/Chemistry

Card : 1/1

Authors : Pudovik, A. N., Sabirova, R. D., and Tener, T. A.

Title : New method of synthesizing esters of phosphinic and thiophosphinic acids.  
Part 17- Addition of esters of ethylphosphinous, dialkylphosphorous and  
dialkylthiophosphous acids to unsaturated compounds.

Periodical : Zhur. Ob. Khim., 24, Ed. 6, 1026 - 1033, June 1954

Abstract : Experiments showed that esters of phosphinous acids, attach themselves  
to unsaturated ketones, in the presence of alcoholates of alkali metal.  
The addition of ethyl and butyl ethers of ethyl phosphinous acid to ethy-  
lidine acetone, benzylidene acetone, benzylidenemethyl-ethylketone, mes-  
ityl oxide and 3-methylheptene-3-one-5 was proven experimentally. Numer-  
ous new keto-phosphinic esters were obtained, through the addition of di-  
ethylphosphorous, diethylthiophosphorous and dibutylphosphorous acids to  
heptene-3-one-2, 1-phenylpentene-1-one-3 and 3-methylheptene-3-one-5.  
Nine references. Tables.

Institution : State University, Kazan

Submitted : January 7, 1954

SABIROVA, P.D.

20-5-39/60

AUTHOR

SHILOV, A. Ye., SABIROVA, P.D.  
The Mechanism and Isotopic Effect of the Primary Act in the Thermal  
Decomposition of Chloroform(Mekhanizm i izotopnyy effekt pervichnogo akta termicheskogo raspada  
khloroforma. Russian)

TITLE

Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 5, pp 1058 - 1061  
(U.S.S.R.)

PERIODICAL

ABSTRACT

In recent publications on the thermal decomposition of organic haloid derivatives there was usually assumed one of two mechanisms of the elementary act of molecule decomposition: either the radical mechanism (break-up of the C-Hal-bond;  $R - X \rightarrow R + X$ ) or the molecular mechanism of an immediate elimination of H-Hal by a four-membered transition complex. Basically one can also imagine still a third mechanism of molecule decomposition: separation of H-Hal from a carbon atom with a primary formation of a derived bivalent C. The authors want to call this latter mechanism a biradical one. (conventional, since the developing particle does not have to be a biradical in the strict acceptation of the word, e.g. CO). Although this mechanism was variously assumed for some compounds, it was in no individual instance sufficiently established. The present paper gives data on the decomposition of chloroform and deuteriochloroform ( $CDCl_3$ ). The decomposition of chloroform was stu-

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The Mechanism and Isotopic Effect of the Primary Act in the Thermal Decomposition of Chloroform

died between 485 and 660 ° C. It follows the monomolecular law. In tests without carrier gas the constant of first order (calculated according to HCl) is conserved at pressures of 16 - 36 mm. It decreases at lower pressures. In the toluol stream no decrease of the constant at lower CHCl<sub>3</sub>-pressures was observed. The reaction speeds in toluol and without carrier gas are equal. This indicates on the one hand that the decrease of the constant at lower pressures is not connected with chemical but with energy factors, on the other hand it shows the absence of an inhibiting action of toluol in the decomposition reaction. The temperature dependence of the velocity constant in  $\lg k, \frac{1}{T}$  - coordinates is described by the formula  $k = 2,63 \cdot 10^{11} e^{-\frac{4700}{RT}}$  sec.<sup>-1</sup>

This represents a sharp contrast to the mechanism of radical decomposition of CHCl<sub>3</sub> (Sameluk + Bernshtain). In fact the constant of decomposition velocity is much too great (activation energy is too small) for a homogeneous decomposition of radical on the C-Cl bond. The authors cannot assume any chain system for the CHCl<sub>3</sub>-decomposition, since the absence of inhibition by toluol indicates the absence of chains. Tab. 2 compares the decomposition of chloroform and deuteriochloroform. The

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The Mechanism and Isotopic Effect of the Primary Act in the Thermal Decomposition of Chloroform

relation of the decomposition speed of light and heavy chloroform at 574 °C is equivalent to 1,65. Fig. 1 shows (straight 2) the dependence on temperature of the decomposition speed of  $\text{CDCl}_3$ . The inclination of the straight gives, just as for  $\text{CHCl}_3$ , a value of  $47 \pm 2$  Kkal for the activation energy. The experiment is not sufficiently accurate, however, to determine the volume of the isotopic effect separately in the value of the activation energy and of the pre-exponential multiplier. Tab. 3 gives data of several tests for the determination of the isotopic composition of hydrogen chloride in the reaction products of  $\text{CDCl}_3$ . In it are contained about 35 % DCl, in the case of an excess of toluol. The relative DCl-content neither depends on the relation of  $\text{CDCl}_3$  and toluol, nor on temperature, nor on the period of contact. The considerable developing amounts of DCl and the first order of reaction indicate that the stage determining the velocity is the biradical decomposition:  $\text{CHCl}_3 \rightarrow \text{HCl} + \text{CCl}_2$  (1). Molecular chlorine was added for checking. The resulting hydrogen chloride proved to be light. Considerable amounts of light HCl in the hydrogen chloride of the reaction products of  $\text{CDCl}_3$  in toluol indicate that about half of

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The Mechanism and Isotopic Effect of the Primary Act in the Thermal Decomposition of Chloroform

the hydrogen chloride does not proceed according to reaction (1), but according to some other reaction with toluol. Special tests showed that DCl with toluol does not have any marked exchange under these conditions. The authors suppose that in both instances a secondary reaction with formation of HCl takes place. The formation of  $C_2Cl_6$  apparently might be a result of  $CCl_3$ -radical-dimerization.

(With illustration, 3 tables, 1 Slavic reference).

ASSOCIATION

Institute for Chemical Physics of the Academy of Sciences of the U.S.S.R.  
(Institut khimicheskoy fiziki Akademii nauk SSSR)

PRESENTED BY

SEmenov, N.N., Member of the Academy

SUBMITTED

30.12.1956

AVAILABLE

Library of Congress

Card 4/4

20-119-3-39/65

AUTHORS: Shilov, A. Ye., Sabirova, R. D., Gorshkov, V. I.

TITLE: On the Problem of the Formation of a Carbonium Ion in the Reactions of the Combination with Olefins (K voprosu ob obrazovanii iona karboniya v reaktsiyakh prisoyedineniya k olefinam)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 3,  
pp. 533 - 536 (USSR)

ABSTRACT: In the first section taking up one third of the work the authors report on previous papers, dealing with the same subject. This work investigates the absorption of ethylene in  $D_2SO_4$  in the case of almost complete absence of an inverse decomposition of the methylsulfuric acid. For this purpose the reaction was performed at increased pressures (about 4 atmospheres) at room temperature. As reaction container served  $\square$ -shaped glass container; one of its knees contained the deutero-sulfuric acid, in the other one the ethylene was frozen out. After this the absorption of ethylene in the sulfuric

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On the Problem of the Formation of a Carbonium Ion in the Reactions of the Combination with Olefins

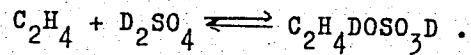
acid began, when the container was shaken mechanically. The ethylsulfuric acid, which had formed, was hydrated with water to ethyl alcohol for the determination of its D-content, which then was transformed into ethyl chloride by a reaction with HCL in presence of zinc chloride. The ethyl chloride, which was obtained in this way, then was analyzed by the mass spectrograph MC- 1A. A table illustrates the intensity distribution of the lines in the calibration spectrum of the common ethyl chloride and in the mass spectra of the analyzed reaction products. The compositions of the formed products, which were computed from the data of this table, are composed in a second table. The only deuterium derivative, which is in the mixture in a quantity worth mentioning, is the monodeuteroethyl chloride. The production of small quantities of  $C_2H_3DCl$  in 2 reactions, given here, obviously is connected with the inver-

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sability of the reaction

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The light hydrogen because of the reaction does not pass into the acid. In the hydration of isobutylene in 4M and 6M-deutero-sulfuric acid the authors obtained similar results. The reaction took place at room temperature in an ampulla, which was sealed up by soldering. The trimethylcarbinole, which was obtained on this occasion, was after the washing out of hydroxyl hydrogen by light water directly analyzed by a mass spectrometer. The deuteriosulfuric acid was analyzed as to its content in deuterium before and after the reaction. Also in this case the reaction takes place without an important exchange of sulfuric acid and olefins and the reaction product is almost only monodeutero-alcohol. These results plainly speak for the following: In the combination of the sulfuric acid with ethylene and in the combination of water with isobutylene the state of the reversible production of a carbonium ion is

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On the Problem of the Formation of a Carbonium Ion in the Reactions of the Combination with Olefins

missing. By this obviously the hypothesis of the  $\pi$ -complex experimentally is proved. From the absence of an exchange follows that in these reactions not only the reversible isothermisation of the  $\pi$ -complex into a carbonium ion is missing, but also the isomerisation of the  $\pi$ -complex into an isomeric  $\pi$ -complex. The authors thank V. L. Tal'roze for his advices in the performance of the mass spectrometrical analyses. There are 2 tables and 11 references, 6 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, AS USSR)  
PRESENTED: October 9, 1957, by N. N. Semenov, Member, Academy of Sciences, USSR  
SUBMITTED: October 7, 1957  
AVAILABLE: Library of Congress

Card 4/4

5(4)

AUTHORS:

Shilov, A. Ye., Sabirova, R. D.

SOV/76-33-6-30/44

TITLE:

Mechanism of the Primary Act of Thermal Decomposition of Chlorine Derivatives of Methane (Mekhanizm pervichnogo akta termicheskogo raspada khlorproizvodnykh metana).

I. Decomposition of Carbon Tetrachloride and Methyl Chloride  
(I. Raspad chetyrekhkhloristogo ugleroda i khloristego metila)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1365-1373 (USSR)

ABSTRACT:

The thermal decomposition of methane chlorides has been insufficiently investigated; in fact, the decomposition of these compounds offers the possibility of clarifying the elementary act of the decay of molecules. In contrast to other decomposition mechanisms (radical and molecular mechanism), the above-mentioned type is termed "biradical mechanism" in the present paper. Thermodynamic calculations show that for  $\text{CH}_3\text{Cl}$  a direct splitting-off of the HCl would be more convenient than that of the Cl-atom; also for  $\text{CCl}_4$ , a scheme of decomposition has already been suggested (Ref 9); as, however, no precise experimental data are available on the mechanism mentioned in the title, corresponding tests were carried out in the present case. To prevent the course of secondary reactions,

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Mechanism of the Primary Act of Thermal Decomposition of SOV/76-33-6-30/44  
Chlorine Derivatives of Methane. I. Decomposition of Carbon Tetrachloride and  
Methyl Chloride

the decomposition was investigated in the gas current for a small contact time. Toluene was used as carrier gas because the latter reacts with the atoms and radicals under formation of stable benzyl radicals. The working methods, as well as a scheme of the test arrangement (Fig 1), are given.  $\text{Cl}_2$ ,  $\text{C}_2\text{Cl}_6$  and  $\text{C}_2\text{Cl}_4$  were

determined as principal products of the thermal decomposition of  $\text{CCl}_4$  with no carrier gas. The test results obtained at 618° show

(Table 1) that the reaction kinetics is of first order and the reaction proceeds in a completely homogeneous way under the given test conditions (554 ~ 601°C). The experiments in the toluene current showed (Table 2) that the reaction-rate constant is similar to the one calculated from the tests without carrier gas. The experimental results clearly point to the reaction  $\text{CCl}_4 \rightarrow \text{Cl}^{\cdot} + \text{C}_2\text{Cl}_3$ , i.e. a radical decomposition as primary act of the  $\text{CCl}_4$ -decomposition, where  $\text{C}_2\text{Cl}_6$  acts as intermediate product and  $\text{CCl}_4$  primarily splits off the chlorine atom. The  $\text{CH}_3\text{Cl}$ -decomposition was investigated at

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Mechanism of the Primary Act of Thermal Decomposition of Chlorine Derivatives of Methane. I. Decomposition of Carbon Tetrachloride and Methyl Chloride

SOV/76-33-6-30/44

843 and 874°C (toluene could not be used as carrier gas in this case), and it was ascertained that, besides HCl, mainly  $\text{CH}_4$  and  $\text{C}_2\text{H}_2$  (and a little  $\text{H}_2$ ) are generated (Tables 3,4).  $\text{CH}_3\text{Cl} \rightarrow \text{CH}_3^{\bullet} + \text{Cl}^{\bullet}$  (17) is assumed as primary reaction, whereupon rapid exothermal reactions (18)-(23) follow. The mechanisms of the secondary reactions of the  $\text{CCl}_4^-$  and  $\text{CH}_3\text{Cl}$ -decomposition, as well as the corresponding activation energies, are indicated. There are 5 figures, 4 tables, and 18 references, 6 of which are Soviet.

ASSOCIATION:

Akademiya nauk SSSR, Institut khimicheskoy fiziki, Moskva (Academy of Sciences of the USSR, Institute of Chemical Physics Moscow)

SUBMITTED:

December 3, 1957

Card 3/3

5.3200

80229

S/076/60/034/04/27/042  
B010/B009

AUTHORS: Shilov, A. Ye., Sabirova, R. D. (Moscow)

TITLE: Mechanism of the Primary Act of Thermal Decomposition of Chloro-methanes. II. Decomposition of Chloroform

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 4, pp. 860 - 865

TEXT: The kinetics of thermal decomposition of  $\text{CHCl}_3$  and  $\text{CDCl}_3$  was investigated in a continuous flow vacuum apparatus (Ref. 1). The substance to be investigated was introduced in the same manner as in earlier (Ref. 1) experiments with  $\text{CCl}_4$  and  $\text{CH}_3\text{Cl}$ ; the quantitative determination of the decomposition products  $\text{HCl}$  and  $\text{C}_2\text{Cl}_6$  was carried out in the same way. The  $\text{DCl}$  resulting from the decomposition of  $\text{CDCl}_3$  was transformed into  $\text{CH}_3\text{D}$  with  $\text{CH}_3\text{MgI}$ , and determined mass spectrometrically. The  $\text{CHCl}_3$  decomposition was investigated in a toluene current as well as without carrier gas, at  $485-599^\circ$ . Surprisingly, it was found that  $\text{CHCl}_3$  de-

C Card 1/2

DZHABIYEV, T.S.; SABIROVA, R.D.; SHILOV, A.Ye.

Mechanism of interaction between triethylaluminum and tetrabutyl titanate, and the structure of complexes formed. Kin. i kat. 5 no.3:441-445 My-Je '64. (MIRA 17:11)

1. Institut khimicheskoy fiziki AN SSSR.

L 37214-66 EWP(j)/EWT(l)/EWT(m) RM/RO

ACC NR: AP6015390

(A)

SOURCE CODE: UR/0409/65/000/003/0474/0475

42

AUTHOR: Bogatskiy, A. V.; Butova, T. D.; Kolesnik, A. A.; Sabirova, R. A.

40

B

ORG: Odessa State University im. I. I. Mechikov (Odesskiy gosudarstvennyy universitet); Kazan Institute of Organic Chemistry, AN SSSR (Kazanskiy institut organicheskoy khimii AN SSSR)

TITLE: Synthesis of certain cyclic alkoxyalkyl-substituted organophosphorus compounds

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 3, 1965, 474-475

TOPIC TAGS: organic phosphorus compound, alkoxy compound

ABSTRACT: Continuing their studies of alkoxy compounds, the authors synthesized new heterocyclic alkoxyalkyl-substituted organophosphorus compounds.<sup>1</sup> The synthesis was performed by reacting 2-alkyl-2- $\alpha$ -alkoxyethyl-1,3-propanediols (I) with phosphorus trichloride (II) in the presence of amines, and also by reacting I with dichloroethyl phosphite (III) in the presence of pyridine. The reaction of I and II produced 2-chloro-5-alkyl-5- $\alpha$ -alkoxyethyl-1,3,2-dioxaphosphorinanes (IV), and the reaction of I and III yielded 2-ethoxy-5-alkyl-5- $\alpha$ -alkoxyethyl-1,3,2-dioxaphosphorinanes (V). In addition, one of the phosphorinanes (IV), 2-chloro-5-isopropyl-5- $\alpha$ -isopropoxyethyl-1,3,2-dioxaphosphorinane, was converted by reaction with methanol in the presence of

UDC: 547.879 + 542.95

Card 1/2

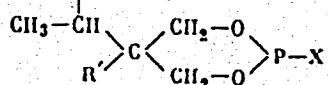
L 37214-66

ACC NR: AP6015390

2

triethylamine into the new compound 2-methoxy-5-isopropyl-5- $\alpha$ -isopropoxymethyl-1,3,2-dioxaphosphorinane (VI). The formula of 2-substituted 5-alkyl-5- $\alpha$ -alkoxyethyl-1,3,2-dioxaphosphorinanes is

OR



Authors are grateful to B. A. Arbuzov and L. V. Nesterov for assistance in this work.  
Orig. art. has: 1 table.

SUB CODE: 07/ SUEM DATE: 14Jan65/ ORIG REF: 003

me  
Card 2/2

KARAKHODZHAYEV, B., dotsent; VYAZIKOV, F.S., assistent; SABIROVA, R.S.,  
ord.; SALAKHUTDINOVA, Kh.S.

Clinical statistical data on rheumatic fever in children during  
the period 1955-1960. Med. zhur. Uzb. no.1:31-34 Ja '62.

(MIRA 15:3)

1. Iz kafedry detskikh bolezney Samarkandskogo gosudarstvennogo  
meditsinskogo instituta imeni I.P. Pavlova.  
(RHEUMATIC FEVER)

GRISHINA, O.N.; SABIROVA, R.Z.

Alkyl phosphinates. Met. poluch. khim. reak. i prepar.  
no.6:11-14 '62. (MIRA 17:5)

1. Institut organicheskoy khimii AN SSSR, g. Kazan'.

GRISHINA, O.N.; NATANOVICH, M.L.; CHERNYAK, A.S.; SABIROVA, R.Z.;  
FILIPPOVA, A.P.

Synthesis of dialkyl esters of alkylphosphinic acids and testing  
of their extractive properties. Trudy Kom.anal.khim.14:312-322  
'63. (MIRA 16:11)

GRISHINA, O.N.; SABIROVA, R.Z.; SOKOLOVA, I.A.

Synthesis of dialkyl-phosphinates. Neftekhimiia 4 no.2:320-322  
Mr-Ap'64 (MIRA 17:8)

1. Institut organicheskoy khimii AN SSSR, Kazan'.

L 4289-66 EWT(m)/EPF(c)/EPF(n)-2/EWP(j)/T/EWA(h)/EWA(l) RPL WW/GG/RM

ACCESSION NR: AP5024006 UR/0020/65/164/002/0365/0367

AUTHOR: Gerasimov, G. N.; Sabirova, T. M.; Khomikovskiy, P. M.; Abkin, A. D.

TITLE: Radiation polymerization of vinyl chloride in solid solutions at low temperatures

SOURCE: AN SSSR. Doklady, v. 164, no. 2, 1965, 365-367

TOPIC TAGS: vinyl chloride, radiation polymerization, mineral oil, solid solution

ABSTRACT: The polymerization of vinyl chloride was carried out in mineral oil at a dose rate of 70 rad/sec ( $\text{Co}^{60}$ ) and temperatures of -78 and -196°C, i.e., above and below the melting point of vinyl chloride. Considerable postpolymerization was found to take place during thawing of the solutions, so that the latter was carried out very rapidly when kinetic data were taken. The kinetic curves obtained show that at -196°C the reaction rate decreases sharply during the first stage, and the polymerization practically ceases at 15 - 20% conversion; the yield of polymer becomes markedly reduced when the vinyl chloride content increases from 6 to 15%. At -78°C, the reaction rate increases sharply at first, then reaches a maximum, and declines rapidly at 50 - 60% conversion. The products formed are low-molecular polymers. It is postulated on the basis of the kinetic data that the polymerization of vinyl chloride in a solid mineral oil solution is determined by a

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L 4289-66  
ACCESSION NR: AP5024006

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definite ordered arrangement of vinyl chloride molecules. The structure of the frozen systems also affects the polymerization process. In contrast to amorphous solutions of vinyl chloride in low-molecular paraffins, the solid system vinyl chloride-mineral oil is a microheterogeneous one; in the presence of microheterogeneity, significant kinetic effects can take place. Orig. art. has: 2 figures.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physiochemical Institute)

SUBMITTED: 10Dec64

ENCL: 00

SUB CODE: MT GC

NO REF SOV: 001

OTHER: 005

Card 2/2 Df

SABIRZYANOV, A.V.; SHUMILOV, M.A.; GEL'D, P.V.; OZHGIKHINA, G.V.

Solubility of aluminum in &leboite. Fiz. met. i metalloved.  
12 no.5:714-721 N '61. (MIRA 14:12)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.  
(Iron-silicon-aluminum alloys--Metallography)

SHUMILOV, M.A.; SABIRZYANOV, A.V.; GEL'D, P.V.

Effect of aluminum, calcium, and phosphorus on the stability of  
 $\alpha$ -lebeautite. Izv.vys.ucheb.zav.; chern.met. 5 no.4:109-117 '62.  
(MIRA 15:5)

1. Ural'skiy politekhnicheskiy institut.  
(Ferrosilicon-Metallography) (Phase rule and equilibrium)

L 02227-67 EWT(1)

ACC NR: AR6013674

SOURCE CODE: UR/0058/65/000/010/E073/E073

AUTHOR: Sabiryanov, A. V.; Gol'dberg, Kh. I.TITLE: Influence of impurities on the electric properties of  $\beta$ -loebrite. 60  
B

SOURCE: Ref. zh. Fizika, Abs. 10E586

REF. SOURCE: Tr. Ural'skogo politekhn. in-ta, sb. 144, 1965, 30-34

TOPIC TAGS: electric conductivity, thermal emf, semiconductor alloy, impurity conductivity, activation energy, electric property

ABSTRACT: The authors investigated the electric conductivity and thermal emf of  $\beta$ -loebrite, which exhibits semiconductor properties. A study was also made of the influence of certain impurities on the electric properties of  $\beta$ -loebrite. It is found that the activation energy of the impurity conductivity is  $\sim 0.28$  ev for all samples. The thermal emf remains negative in the entire interval of temperatures and compositions. [Translation of abstract].

SUB CODE: 20

Card 1/1 LC

SABIRZYANOV, T.G.; ABROSIOMOV, Ye.V.; TERZIYAN, P.G.; MOISEYENKO, A.I.;  
LOSHCHEV, V.Ya.; KONDRASHOV, M.M.; DANILOV, D.D.

Optimum conditions and charging and preheating in the open-hearth scrap and hot metal practice. Izv. vys. ucheb. zav.; chern. met. 7 no.11:66-70 '64. (MIRA 17:12)

1. Moskovskiy institut stali i splavov.

SABIRZYANOV, T.G., inzh.; ABROSImov, Ye.V., kand. tekhn. nauk;  
MOISEYENKO, A.I., inzh.

Investigating the preheating of granular materials in large-capacity open-hearth furnaces. Stal' 23 [i.e. 24] no.4:318-319 Ap '64. (MIRA 17:8)

SABIRZYANOV, T.G.; ABROSIOMOV, Ye.V.

Heat requirement during the melting period in the scrap and  
hot metal open-hearth process. Izv. vys. ucheb. zav.; chern. met.  
8 no.1:26-31 '65 (MIRA 18:1)

1. Moskovskiy institut stali i splavov.

AUTHOR: Sabishev, D.M. SOV/140-58-4-23/30

TITLE: Limit Value Formulas for a Class of Functions of Two Complex Variables Defined on  $(p,q)$ -Two Times-Round Domains (Formuly predel'nykh znacheniy dlya odnogo klassa funktsiy ot dvukh kompleksnykh peremennykh, zadannykh na  $(p,q)$ -dvoyakokrugovykh oblastyakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1958, Nr 4, pp 215-217 (USSR)

ABSTRACT: A domain  $D$  is called  $(p,q)$ -two times-round if from  $(w_0, z_0) \in D$  there follows:  $w = (w_0 - a)e^{p\alpha i} + a, z = (z_0 - b)e^{q\beta i} + b \in D$ , where  $p, q$  are relatively prime. Joining a result due to Temlyakov [Ref 2] and the integral representation of a function  $F(w, z)$  regular in  $D$  with the aid of a certain density function  $\mu$ , the author proves two formulas for limit values of  $F$  for the convergence to the boundary.  
There are 3 Soviet references.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina  
(Kazan' State University imeni V.I.Ul'yanov-Lenin)

SUBMITTED: March 24, 1958

Card 1/1

16(1)

AUTHOR: Sabishev, D.M.

SOV/140-59-3-20/22

TITLE: Formulas for Boundary Values of Functions of a Class

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 3,  
pp 210-213 (USSR)

ABSTRACT: Let the domain D have the property that with every point

$$z_0 = (z_1^0, z_2^0, \dots, z_5^0)$$
 also the points

$$z \left\{ \begin{array}{l} z_1 = (z_1^0 - a_1) e^{im_1 \alpha_1} + a_1 \\ \vdots \\ z_5 = (z_5^0 - a_5) e^{im_5 \alpha_5} + a_5 \end{array} \right.$$

belong to it, where  $\alpha_i$  are arbitrary real numbers and  $m_i$  are pairwise relatively prime.

Theorem: Every function  $F(z)$  regular in D admits the representation.

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Formulas for Boundary Values of Functions  
of a Class

SOV/140-59-3-20/22

$$F(z) = \sum_{k_1, k_2, \dots, k_5=0}^{\infty} a_{k_1, k_2, \dots, k_5} (z_1 - a_1)^{\frac{k_1}{m_1}} (z_2 - a_2)^{\frac{k_2}{m_2}} \dots (z_5 - a_5)^{\frac{k_5}{m_5}}.$$

Let  $(a_1, a_2, \dots, a_5) \in D$  and let  $D$  be bounded by the non-analytic surfaces  $|z_1 - a_1| = r_1(\tau), \dots, |z_5 - a_5| = r_5(\tau)$ ,  $0 < \tau < 1$  (compare A.A.Temlyakov [Ref 27]).

Theorem: Let  $f(z)$  be analytic in  $D$ . Then there exists a function  $F(z)$  also analytic in  $D$  so that

$$1. \quad F(z) = \frac{1}{(2\pi)^4} \int_N dk; \quad k = [0, 2\pi] \times [0, 2\pi] \times [0, 2\pi] \times [0, 2\pi] \times [0, 1],$$

$$dk = dt_1 dt_2 dt_3 dt_4 d\tau; \quad N = (r_1 u^{\frac{m_1}{m_1}}, r_2 v_1^{\frac{m_2}{m_2}}, \dots, r_5 v_4^{\frac{m_5}{m_5}});$$

$$v_k = ue^{-ik}; \quad u = \epsilon_1 \left( \frac{z_1 - a_1}{r_1} \right)^{1/m_1} + \dots + \epsilon_5 \left( \frac{z_5 - a_5}{r_5} \right)^{1/m_5};$$

Card 2/3

Formulas for Boundary Values of Functions  
of a Class

SOV/140-59-3-20/22

2. the behavior of the analytic function elements of  $F(z)$  and  $f(z)$  is identical on the boundary (uniform convergence or divergence of the series developments);
3. there holds the integral representation

$$F(z) = \frac{1}{(2\pi)^5 i} \int_{k_1} \frac{\text{Ad } z}{z - u},$$

where  $k_1 = kx c$ ,  $c$  is the unit circle.

The author mentions Yu.V.Sokhotskiy.

There are 5 Soviet references.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet imeni V.I.Ulyanova-Lenina  
(Kazan' State University imeni V.I.Ulyanova-Lenin)

SUBMITTED: May 23, 1958

Card 3/3

SABITOV, A., slesar'-elektrik

I am improving the work in my section. Zhil.-kom. khoz. 10  
no.10:19-20 '60. (MIRA 13:10)

1. Tramvaynyy park No.1. g. Gor'kiy.  
(Gorkiy--Streetcars--Maintenance and repair)

KIRSANOV, N.V.; VLASOV, V.V.; SABITOV, A.A.

Mineralogical composition of bentonites in the Nurlat deposit  
of the Tatar A.S.S.R. Lit. i pol. iskop. no.3:96-104 My-Je  
'65. (MIRA 18:10)

1. Geologicheskiy institut, Kazan'.

SABITOV, F.Sh., kand.ekonom.nauk

Method of establishing the wholesale prices for power equipment,  
taking its efficiency into account. Energomashinostroenie 7 no.12:  
32-34 D '61. (MIRA 14:12)

(Machinery--Prices)

KLIMOV, Aleksey Nikolayevich, kand. tekhn. nauk, dots.; OLENEV, Ivan Dmitriyevich, dots.; SOKOLITSYN, Sergey Alekseyevich, dots., kand. tekhn. nauk; TYAMSHANSKIY, N.D., kand. ekonom. nauk, dots.; SHAKHIDZHANYAN, V.M., kand. tekhn. nauk; SABITOV, F.Sh., kand. ekonom. nauk, retsent; NEYMARK, A.I., dokt.tekhn.nauk, prof., red.; GRUNKIN, M.N., kand. ekonom.nauk, dots.,red.; RUBCHINSKIY, A.M., kand.ekonom.nauk,dots.,red.; VARKOVETSKAYA, A.I., red. izd-va; KONTOROVICH, A.I., tekhn. red.

[Organizing and planning the operations of a machinery plant] Organizatsija i planirovanie mashinostroitel'nogo zavoda. Moskva, Nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 512 p. (MIRA 14:8)

1. Nachal'nik planovo-ekonomiceskogo otdela Leningradskogo metallicheskogo zavoda imeni Stalina (for Sabitov)  
(Machinery industry—Management)

SABITOV, Fazyl Shafikovich, kand.ekon.nauk; NEYMARK, M.M., inzh., red.;  
SHILLING, V.A., red.izd-va; GVIRTS, V.L., tekhn.red.

[Ways to reduce production costs; practice of the Leningrad Metal Plant] Puti snizheniya sebestoimosti produktsii; opyt Leningradskogo metallicheskogo zavoda. Leningrad, 1961. 14 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opyтом. Seriia: Ekonomika i organizatsiia proizvodstva, no.4) (MIRA 15:4)

(Leningrad—Metal industries—Costs)

SABITOV, F.Sh.; KHANINA, M.G., inzh., retsenzent

[Organization of planning and business accounting in individual and small-lot-machinery manufacturing plants; from practice of the Leningrad Metal Plant Named After the 22d Congress of the CPSU] Organizatsiia planirovaniia i khozrascheta na zavodakh individual'nogo i melkoserinogo mashinstroeniia; iz opyta Leningradskogo metallicheskogo zavoda imeni XXII s"ezda KPSS. Moskva, Mashinostroenie, 1964. (MIRA 18:2) 121 p.

SABITOV, I. Kh.

Infinitesimal deformations of a convex surface with  
generalized sliding at the boundary. Dokl. AN SSSR 147  
no.4:793-796 D '62. (MIRA 16:1)

1. Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova.  
Predstavлено академиком P. S. Aleksandrovym.

(Surfaces, Deformation of)

SABITOV, I.Kh. (Moskva)

Rigidity of some surfaces of revolution. Mat. sbor. 60 no.4:506-519  
Ap '63. (MIRA 16:4)  
(Surfaces)

SABITOV, I.Kh.

General boundary value problem of linear conjugation on a  
circle. Sib. mat. zhur. 5 no.1:124-129 Ja-F '64.  
(MIRA 17:7)

SABITOV, I.Kh. (Moskva)

Boundary value problem involving linear conjugation. Mat.  
sbor. 64 no.2:262-274 Je '64. (MIRA 17:9)

SABITOV, I.Kh.

Local structure of Darboux surfaces. Dokl. AN SSSR 162 no.5:1001-1004  
Je '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova. Submitted  
February 17, 1965.

SABITOV, I.Kh.

Some results of a study on infinitesimal surface bendings "in the small" and "in the large." Dokl. AN SSSR 162 no.6:1256-1258 Je  
'65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

S/081/62/000/012/049/063  
B156/B144

AUTHORS: Pokrovskiy, B. A., Sabitov, Kh. K.

TITLE: A petroleum product flash point analyzer

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 508 - 509,  
abstract 12M214 (Novosti neft. i gaz. tekhn. Neftepererabotka  
i neftekhimiya, no. 9, 1961, 25 - 28)

TEXT: The ABH-60 (AVN-60) automatic analyzer has been developed for finding the flash point of petroleum products whilst they are in flow being intended for the continuous determination and recording of the flash point for the purpose of regulating the technological process by means of AYC(AUS) devices. The basic working principle of the analyzer is that the temperature of the petroleum product continually passing through a crucible is automatically maintained constant at its flash point. Industrial tests on experimental models of the analyzer have shown that such instruments work consistently and provide readings which agree satisfactorily with the flash point determined in a ПЖ(ПВН) (Pensky-Martens) device. [Abstracter's note: Complete translation.]

Card 1/1

L 7005-66 EWT(m)/EPF(c)/T RPL WW/JW/WE  
ACC NR: AP5026806 SOURCE CODE: UR/0286/65/000/017/0089/0089

INVENTOR: Pokrovskiy, B. A.; Sabitov, Kh. K.

ORG: none

TITLE: A device for continuously measuring the flash point of flammable liquids.  
Class 42, No. 174431

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 89

TOPIC TAGS: flammability, liquid fuel, fuel flash point, electric measuring instrument

ABSTRACT: This Inventor's Certificate introduces: 1. A device for continuously measuring the flash point of flammable liquids. The instrument contains a continuous-flow crucible with a heated conducting channel, combustion chamber, temperature gauge, ignition device and bellows-type pressure relay. To simplify the unit and improve its reliability and operational convenience, the ignition device is connected directly to a low-voltage power supply, and the heater is connected to the same power supply through the pressure relay which is controlled by a bellows-type valve.

Card 1/3

UDC: 536.532 : 662.753

0901 1969

L-7005-66  
ACC NR: AP5026806

2. A modification of this device in which an improvement is made in the conditions for forming the vapor-air mixture by using a helical conducting channel in the crucible and keeping the vapor and air in contact throughout the length of this channel.

SUB CODE: FP,IE,TD,EE/ SUBM DATE: 07May64/ ORIG REF: 000/ OTH REF: 000

Card 2/3

L 7005-66  
ACC NR: AP5026806

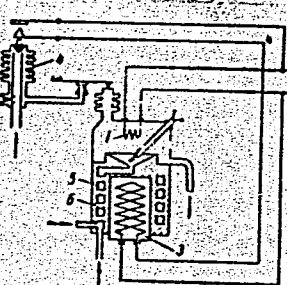


Fig. 1. 1 - ignition device; 2 - low-voltage power supply; 3 - heater; 4 - bellows-type pressure relay; 5 - helical channel; 6 - crucible.

Card 3/3

SABITOV, M.A.

How the time of weighing soil samples affects the accuracy of  
moisture determination. Pochvovedenie no.6:105-107 Je '61.  
(MIRA 14:6)

1. Institut energetiki i vodnogo khozyzystva AN Kirgizskoy  
SSR.  
(Soil moisture)

L 22454-65

ACCESSION NR: AR4046203

S/0299/64/000/016/M020/M020

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 16M121

AUTHOR: Sabitov, M. S.

TITLE: Experimental transplantation of heteroembryonic vessels

CITED SOURCE: Tr. 35 Itog. nauchn. konferentsii. Alma-Atinsk. med. in-t. Alma-Ata, 1963, 179-184

TOPIC TAGS: dog, embryo, vessel, artery, heterotransplantation, angiography, antibiotic

TRANSLATION: Vessel transplants from the aorta, carotid, and femoral arteries of 5-6 month old embryos of cows and pigs were subjected to lyophilization, and 49 of these vessels were transplanted in dogs. Transplants were selected according to the diameter and wall thickness of the vessel being replaced. An angiographic device was used. Subsequently histological investigations and angiography were performed. In the 20 transplants without use of antibiotics, three complete accretions without thrombosis were found. In the 29 cases in which

Card 1/2

L 22454-65

ACCESSION NR: AR4046203

penicillin and heperin were used for 6 days, investigations up to  $1\frac{1}{2}$  yrs later show that transplant passability was completely preserved in 2 cases and partially preserved in 15 cases, thrombosis appeared in 8 cases, and transplanted vessels were completely obliterated in 5 cases.

SUB CODE: LS

ENCL: 00

Card 2/2

I 34074-65

S/0209/64/000/023/M023/M023

ACCESSION NR: AR5003959

SOURCE: Ref. zh. Biologiva. Sv. t., Abs. 23M142

AUTHOR: Sabitov, M. S.

TITLE: Experimental homoembryonic angioplasty

CITED SOURCE: Sb. 36-ya itog. nauchn. konferentsiya. Alma-Altinsk.  
med. in-t. Alma-Ata, 1964, 90-92

TOPIC TAGS: dog, artery defect, homotransplantation, plastic  
surgery, fetus, tissue, angioplasty, thrombosis

TRANSLATION: Adult dogs with carotid defects received transplants  
taken from 40-45 day old fetuses (5 experiments) and 55-60 day old  
fetuses (15 experiments). Anticoagulants and antibiotics were  
administered to animals for 5-6 days after the operation. Thrombosis  
in the anastomosis area and in the transplant were found in 4 of the  
cases with tissue transplants from 40-45 day old fetuses. N. S.

SUB CODE: LS

ENCL: 00

Card 1/1

SABITOV, Sh. S., Candidate of Biol Sci (diss) -- "A study of the effect of the conditions of the external environment on the physiological processes of cattle in order to increase their milk productivity under conditions of a hot climate". Tashkent, 1959, published by SAGU. 20 pp (Min Higher Educ, Central Asia State U im V. I. Lenin), 150 copies (KL, No 22, 1959, 112)

SABITOV, Z., mayor; KISELEV, I., mayor.

How to increase the accuracy of machine-gun adjustment. Tankist no.5:  
(MIRA 11:3)  
55 My '56.  
(Machine guns)

VASIL'YEV, Zh.Kh.; SABITOVA, A.I.

Determination of the available and the potential functional reserves of the adrenal cortex in patients with cardiovascular diseases. Nauch. trudy Kaz. gos. med. inst. 14:389-390 '64.  
(MIRA 18:9)

1. Kafedra gospital'noy khirurgii No.2 (zav. - prof. N.P. Medvedev), kafedra patologicheskoy fiziologii (zav. - prof. M.A.Yerzin) i tsentral'naya nauchno-issledovatel'skaya laboratoriya (zav. - kand. biolog. nauk S.V.Senkevich) Kazanskogo meditsinskogo instituta.

LITOVCHEJKO, S.V.; GAVRIL'CHIK, N.S.; SABITOVA, E.G. (Kiyev)

Use of novocaine in cerebral arteriosclerosis. Vrach. delo no.1:  
68-72 Ja '62. (MIRA 15:2)

1. Otdeleniye vozrastnykh izmeneniy nervnoy sistemy (nauchnyy  
rukovoditel' - deystvitel'nyy chlen AMN SSSR, prof. B.N.Man'kovskiy)  
Instituta gerontologii i eksperimental'noy patologii AMN SSSR.  
(NOVOCAINE) (ARTERIOSCLEROSIS)  
(CEREBROVASCULAR DISEASES)

USSR/Human and Animal Physiology. Digestion. The Stomach.

T-7

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55741.

Author : Sabitova, G. Sh.

Inst : Kazan' Institute of Medicine.

Title : The Effect of the Vagosympathetic Novocaine Neck Block  
Upon Peristaltis of the Stomach.

Orig Pub: Sb. nauchn. rabot Kazansk. med. in-ta, Kazan', 1957,  
448-455.

Abstract: A right-side vagosympathetic novocaine block of the neck in patients complaining about stomach pains and peristaltic stomach activity, normalized the stomach's tonus and its motor functions. Sometimes, such a block effected even the composition of the mucosa. In 65 percent of the patients, pain and dyspeptic disturbances disappeared.

Card: 1/1

ACC NR: AP7005755

SOURCE CODE: UR/012G/67/023/001/0117/0122

AUTHOR: Ivanova, V. S.; Terent'yev, V. F.; Kudryashov, V. G.; Sabitova, N. S.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446620003-5"

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Mechanism of hardening during multiple deformation aging

SOURCE: Fizika metallov i metallovedeniye, v. 23, no. 1, 1967, 117-122

TOPIC TAGS: metal deformation, metal aging, metal heat treatment, creep, low carbon steel

ABSTRACT: The strength of metals can be additionally enhanced if they are deformed in stages alternating with aging. The best results are produced when the metal is subjected at room temperature to successive dynamic loadings up to a rigorously limited degree of deformation equal in magnitude to the creep plateau, alternated with intermediate aging (multiple thermomechanical treatment or MTMT). The MTMT of e.g. iron increases its yield point by 100-150% and ultimate strength by 50-75% while maintaining plasticity at the level of 17%. In this connection the authors investigated the dislocation structure of low-carbon steel and armco iron following their quadruple (i.e. 4-stage) MTMT with intermediate aging (150°C for 5 hr) after each stage of deformation. Dislocations were examined by etching with the reagent

Card 1/2

UDC: 539.4

ACC NR: AP7005755

LZ (100 cc of methyl alcohol + 1 g  $\text{FeCl}_3$ ). Findings: the increase in the static and cyclic strength of armco iron and low-carbon steel following their MTMT is due to the formation of a stabilized dislocation structure which uniformly encompasses the hardened volume of the metal and leads to: a) limitation of surface deformation during cyclic loading of the metal and, as a consequence, retardation of the occurrence of fatigue cracks which, in its turn, prolongs the life of the metal; b) increase in the energy  $G_{lc}$  required for the propagation of a crack (per unit length of the crack). Knowledge of the parameters  $G_{lc}$  and  $K_{lc}$  (relative local increase in tensile stress at the leading end of a crack spreading under conditions of plane deformation) is an important and useful requirement for selecting the optimal regime of hardening treatment. Orig. art. has: 4 figures, 2 formulas.

SUB CODE: 13, 11/ SUBM DATE: 09Oct65/ ORIG REF: 008/ OTH REF: 007

Card 2/2

IVANOVA, V.S.; SABITOVA, N.S.; RUSSAVSKAYA, I.D.

Methods of exposing dislocations in deformed metals. Zav.lab. 29  
no.2:193-197 '63. (MIRA 16:5)

1. Institut metallurgii imeni A.A.Baykova.  
(Dislocations in crystals) (Dislocations in metals)

L 40555-65 EWT(d)/EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z) EWP(b) MJW/JD/EM  
ACCESSION NR: AP5002938 S/0129/65/000/001/0007/0009

AUTHOR: Ivanova, V. A.; Antikayn, P. A.; Sabitova, N. S.

21  
23  
B

TITLE: Healing of damage accumulated during cyclic overloading of steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 1, 1965, 7-9

TOPIC TAGS: steel healing, steel overloading, steel fatigue, damage curve, thermal healing, submicroscopic crack/steel 15kp, steel 30KhGSA

ABSTRACT: The purpose of the article was to determine the scope of cyclic overloading causing damage in steel which can be healed (eliminated) by subsequent heat treatment. The basis of the study was the diagram of fatigue destruction which, in addition to the fatigue curve, also contains the damage curve reflecting the relationship between the stress and the number of cycles causing submicroscopic cracks. Operating with steel 15kp, it was shown that these cracks can be healed by thermal treatment. These results were verified using 1.5 mm thick 30KhGSA steel plate. Samples were ground to 1 mm thickness, polished, vacuum heat treated at 880°C for 2 hrs, cooled in air, and annealed at 580°C (6 hrs in the air). Their fatigue limit was 20.5 kg/mm<sup>2</sup>. Part of the samples were cyclically overloaded at 33 kg/mm<sup>2</sup> for  $3 \cdot 10^4$ ,  $5 \cdot 10^4$  and  $8 \cdot 10^4$  cycles, i.e., close to the damage level. When these samples were further submitted to cyclic

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L 40555-65

ACCESSION NR: AP5002938

deformation at the fatigue limit level without being subjected to intermediate heat treatment, they broke down. Another group of samples was subjected to overloads of  $33 \text{ kg/mm}^2$  for a number of cycles varying between  $3 \cdot 10^4$  and  $20 \cdot 10^4$ , heat treated as before and then again subjected to loads at the fatigue limit threshold. Samples previously subjected to cycles ranging from 3 to  $12 \cdot 10^4$ , i.e., within the damage curve, did not break down, while the sample subjected to the destructive number of  $20 \cdot 10^4$  cycles did break down. The conclusion is that the damage curve is the limit of overloading when thermal treatment heals the submicroscopic cracks and restores the life of the piece for continued operation. Thus, the diagram of fatigue destruction indicates safe and dangerous levels of cyclic overloads. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Institut metallurgii im. Baykova A. A. (Metallurgical institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 006

OTHER: 000

Card 2/2

B98

IVANOVA, V.S.; ANTIKAYN, F.A.; SABITOVA, N.S.

During impairments accumulated during the cyclic overloading of  
steel. Metalloved. i term. obr.met. no.1:7-9 Ja '65.

(MIRA 18:3)

1. Institut metallurgii im. Baykova.

I 3237-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(h)/EWA(c) JD

ACCESSION NR: AP5021978

UR/0286/65/000/014/0041/0041  
621.787

AUTHOR: Ivanova, V. S.; Terent'yev, V. F.; Sabitova, N. S.

TITLE: Method of increasing the service life of steels and alloys: Class 18,  
No. 172865

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 41

TOPIC TAGS: steel, alloy, steel service life, alloy service life, steel training,  
alloy training, cyclic training\*

ABSTRACT: This Author Certificate introduces a method of increasing the service life  
of steel and alloy parts by training\*. To obtain a higher strengthening effect of  
training\*, the cyclic treatment by a stress higher than the yield strength is alternated  
with rest periods. The training\* process, which comprises a fixed number of cycles  
with subsequent rest periods, is repeated 5-10 times. [MS]

ASSOCIATION: none

\*[Probably training]

SUBMITTED: 18Apr63

ENCL: 00

SUB CODE: MM

NO REF Sov: 000

OTHER: 000

ATD PRESS: 4104

Strain hardening 15/20  
Card 1/1

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001446620003-5

SABITOVА, Т.М.

Periods of surface waves. Izv. AN Kir. SSR. Ser. est. i tekhn.  
nauk 5 no.6:41-52 '63. (MIRA 17:5)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001446620003-5"

ALL INFORMATION CONTAINED  
HEREIN IS UNCLASSIFIED

SOURCE CODE: UR/3231/66/000/002/0095/0103

AUTHOR: Valyus, V. P.; Levshin, A. L.; Sabitova, T. M.

ORG: none

TITLE: Combined interpretation of volume and surface waves for a region in Soviet Central Asia

SOURCE: AN SSSR. Institut fiziki Zemli. Vychislitel'naya seysmologiya, no. 2, 1966.  
Mashinnaya interpretatsiya seysmicheskikh voln (Machine interpretation of seismic waves),  
95-103

TOPIC TAGS: seismic wave, data analysis, computer application, shock wave velocity

ABSTRACT: Observational ambiguity can be reduced by integrating the interpretation of different classes of observations, in particular surface and volume waves. Thus, the same set of data may correspond to a large number of different travel-time curves which markedly differ from each other in geophysical significance of the dynamics of the associated wave pattern. In this connection the article describes the solution by means of a computer of a converse problem of this type: The determination of the travel-time curves for the earth's crust in Central

Card 1/2

ACC NR: AT6033694

Asia from Andizhan to Dushanbe according to the observed time of arrival of P and S waves, over the epicentral distances  $\Delta = 50, 100, 150, 250$ , and  $350$  km. These waves, recorded by the instruments of the Andizhan and Dushanbe seismic stations, originated from a series of earthquakes in the Kurile-Kamchatka zone. The observational data were converted for loading into a computer by the method of Azbel' et al. (Doklady II simpozium po teorii i vychislitel'-nym metodam v geofizike, 1965) so as to correspond to a crystalline two-layer earth's crust overlain by a layer of sedimentary rocks and underlain by a mantle with a weak positive velocity gradients. Two variants of this method were employed: one, based on the premise that only a velocity discontinuity of the pressure gradients is possible in the crust and the other, postulating a velocity discontinuity with gradual acceleration in velocities. In both cases the various possible travel-time curves are successively checked by the Monte Carlo method on computing in every individual case the theoretical curves of the hodographs of surface waves  $t_P(\Delta)$  and  $t_S(\Delta)$  and the period  $v_{R_2}(T)$  (12-36 sec) and comparing them with curves plotted on the basis of observational data<sup>2</sup> until the optimal curve can be selected. After a sufficiently comprehensive number of possible solutions (500-1000) is thus scanned on the basis of comparison with experimental data (time of arrival of various volume waves, amplitude curves of these waves, curves of variance of the phase and group velocity of any harmonic of Love and Rayleigh waves) and various criterions of estimation, they can be easily realized in a specially compiled computer routine. Orig.\_art. has: 3 figures, 3 tables.

SUB CODE: 08, ~~17~~ 09 / SUBM DATE: none / ORIG REF: 068 / OTH REF: 003

Card 2/2

SABITSKIY, I. I.

N/5  
163.3  
.S21

MPPO zhylogo budynku ( Local Anti-Aircraft Defenses For An Apartment House ) Pereklad z 2-vo vypravlenogo rosiys'kogo vydaniya. Kyiv, Derzhavne Vyd-vo Tekhnichnoyi lit. UkrSSR, 1953.

110 p. illus.

*SABIYEV, M. P.*

133-11-4/19

AUTHORS: Garbuz, G.A., Sabihev, M.P. and Ploshchenko, Ye.A., Engineers.TITLE: From Experience in Operating a 500-ton Open-hearth Furnace  
(Opyt raboty 500-t martenovskoy pechi)

PERIODICAL: Stal', 1957, No.11, pp. 976 - 982 (USSR)

ABSTRACT: Main design features of a 500-ton open-hearth furnace and the operating results obtained during its first campaign are described. The furnace was put into operation in March, 1956. It was built in a melting shop designed for 250-ton furnaces. Main dimensions are given in the table and Fig.1. The roof is made from magnesite-chrome and regenerators from forsterite bricks. The first campaign lasted 381 heats with a mean output per heat of 489.5 tons and mean duration of 13.21 hours. The furnace was producing rimming steels (mainly Ct.3КП) with 58-65% hot pig and 35-42% scrap. A comparison of the dependence of the duration of heat, melting and refining periods and velocity of decarburisation during ore and pure boiling on the carbon content after melting for the 500-ton and a 250-ton furnace is given in Fig.2. Thermal conditions of the furnace operation are discussed in some detail and illustrated in Figs. 3-7. It is concluded that the results of the furnace operation were satisfactory, but somewhat lower than as designed, mainly due to organisational-technical defects (insufficient

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133-11-4/19

From Experience in Operating a 500-ton Open-hearth Furnace

supply of coke-oven gas, stoppages in the supply of burden materials, ladles, etc), as well as due to large metal losses during teeming and the following design defects: too low position of gas outlet, insufficient diameter of the waste gas valve on air duct (150 mm instead of 1 800 mm required) and insufficient capacity of slag ladles.

There is 1 table and 7 figures.

ASSOCIATION: Giprostal' and Voroshilov Metallurgical Works  
(Voroshilovskiy metallurgicheskiy zavod)

AVAILABLE: Library of Congress  
Card 2/2

SOV/137-58-8-16497

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 38 (USSR)

AUTHOR: Sabihev, M.P.

TITLE: Operation of Open-hearth Furnaces With Capacities of 500 and 250 Tons (Opyt ekspluatatsii martenovskikh pechey yemkost'yu 500 i 250 t)

PERIODICAL: Tr. Nauchno-tekh. o-va chernoy metallurgii, 1957, Vol 18, pp 355-366

ABSTRACT: The operation of all furnaces (F) is based upon the scrap-ore process employing 58-65% of cast iron in the charge. Consumption of ore in 250 and 500-t F's amounts to 15-16% and 13.5-15.5%, respectively, and that of limestone to 8-10% and 6-7%, respectively. High thermal capacity of the F's is a proof of correct selection of parameters for blast nozzles and the hearth area. Design deficiencies of the F's are examined and the operation of separate elements is discussed together with changes which had to be introduced during operations and which must be taken into consideration in any future projects. See also RZhMet, 1958, Nr 4, abstract 6671.

1. Open hearth furnaces--Operation

V.G.

Card 1/1

N.P. SHIVELY

## PLATE I BOOK INFORMATION

SOV/1907

Akademicheskaya Literatura SSR. Kiev: Otdelenie Tekhnicheskikh Nauk

Voprosy Proizvodstva Stali VTP. 6 (Problems of Steel Production, Pt. 6)  
Kiev, 1959. 140-60 M. Ukrainian SSR, 1958. 137 p. Private copy. In-  
scripted. 20,000 copies printed.

Rep. Ed.: B.I. Dobrohotov, Academician, Ukr. SSR Academy of Sciences; Ed. of Publishing House: E.N. Lashkov; Tech. Ed.: V.I. Furshikin.

PURPOSE: This book is intended for engineers and scientific per-  
sonnel in the field of steel production.

CONTENTS: This is a collection of articles dealing with various as-  
pects of the production of steel, including the designing of open-  
hearth furnaces, thermal processes in the furnace, thermodynamics  
of steel-making processes, technology of producing high-grade  
steel, and changes in the size and shape of ingots. Other topics  
discussed are the properties of charge materials, stainless steels,  
improvement of ball-bearing steel, large defects, ingot quality  
as determined by temperature of casting, design and shape of mold, and  
certain aspects of steel rolling. Some of the mold, and  
both series and non-series. Some of the articles are ac-  
companied by references.

Dan, B. Sh., and F.P. Makonevich. Investigation of the Pro-  
cesses of Chrome-Manganese Stainless Steels. 81

Dobrohotov, K.I., and S.V. Verbovskiy. Improving the Quality  
of Slabbing Ball-Bearing Steel. 49

Verbovskiy, S.V., and K.K. Prokhorov. Ingot Defects Caused  
by Skin Oxide Forming During the Rolling of Steel. 68

Dobrohotov, K.I., S.I. Trichkov, S.V. Verbovskiy, and V.A.  
Gorodetskiy. Motherlike Mixture for [Heating] Hot Tops of Steel  
Castings. 77

Verbovskiy, V.A., M.I. Shevchenko, and V.P. Ordynskiy. Effect of the  
Hydrodynamics of the Interface of Liquid Steel Into the Ingot Mold  
on Ingot Quality. 87

Verbovskiy, V.A., V.I. Danilin, M.P. Lapshov, V.P. Ordynskiy, and  
A.A. Kiselev. Effect of Rolling Temperature and Hold Shape on  
the Quality of Steel Ingots. 96

Verbovskiy, V.A., N.P. Sabirov, and V.P. Osipov. Reduction of Head  
and Edge Creases in the Rolling of Ingots. 110

Verbovskiy, V.A., V.P. Osipov, and A.M. Mel'nikov. An Investigation  
of the Conditions for Rolling Sheet Bar With Very Thin Surfaces. 123

Petrovich, V.O. Experiments in the Conversion of High-phos-  
phorus Pig Iron in a Converter With Side Blast of Oxygen. 130

AVAILABILITY: Library of Congress

SOV/1907  
7-30-59

card 4/4

81436

1P.3200

Translation from:

Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, pp 71 - 72

(USSR)

AUTHORS:

Yefimov, V.A., Sabiyev, M.P., Grebenyuk, V.P.

TITLE:

Investigations on Improved Casting of Steel  
Sheet Ingots

PERIODICAL:

V sb.: Vopr. proiz-va stali, Nr 5, Kiyev, AS UkrSSR, 1958,  
pp 119 - 145

ABSTRACT:

The authors investigated the connection between steel casting conditions and the development of cracks on the surface of sheet ingots of 12.8, 9.6 and 8.6 ton weight. It was established that the temperature was distributed most irregularly over the open metal surface during the filling of the mold. The crust temperature at the edges of the ingot was 40 - 80° lower than along the ingot axis. To obtain a normal ingot, the steel must have a high temperature and must be cast without a crust; eddy currents in the ingots during the pouring of the metal into the mold must be insignificant. The weight inflow of the steel into the mold

Card 1/3

81480

sov/137-59-5-9947

Investigations on Improved Casting of Steel Into Large-Size Sheet Ingots

per unit of time must increase during the casting. The authors recommend a casting speed of 0.9 - 1.2 t/min for the lower part and a speed of 1.3 - 1.4 t/min for the upper part. Formulas are given to determine the optimum steel temperature at the moment of tapping. For casting 9.6 ton ingots it is:  $t_{\text{tap}} = (t_1 + t_{\text{sol}}) / 2 + 85 + 70/1.5 \cdot W$ , where  $t_{\text{tap}}$  is the steel temperature during tapping the furnace,  $t_1$  is the temperature of liquidus,  $t_{\text{sol}}$  is the temperature of solidus,  $W$  is the weight speed of teeming in t/min. Casting of steel with a smooth surface was carried out in experimental smelts at a tapping temperature of the steel of 1,620° - 1,650°C. It was established that the shape of the nozzle placed into the mold, had an effect on the formation of the crust on the surface of the metal ascending in the mold. It is recommended to use nozzles with rectangular or oval-shaped outlet cross-sections. The authors investigated heat flows from the ingot to the mold during casting. During the first minute the heat flows attain 20,000 to 25,000 kcal/min  $\text{m}^2$ ; during the following 2 - 3 minutes they decrease to 7,000 - 6,000 kcal/min  $\text{m}^2$ . In high-speed casting of relatively cold metal heat flows at the mold walls were irregularly distributed over the ingot height. Mostly the heat flows occurred in the zone of intensified circulation

Card 2/3

AUTHOR: Sabihev, M.P. SOV/133-58-12-6/19

TITLE: Methods of Decreasing Head Crops of Heavy Ingots of Rimming Steels (Puti snizheniya golovnoy obrezi tyazhelykh slitkov kipyashchikh stalej)

PERIODICAL: Stal', 1958, Nr 12, pp 1089-1095 (USSR)

ABSTRACT: After a brief discussion of the reactions taking place during boiling of rimming steel in ingot moulds and the influence of prolonged boiling on the size of head crops, a description of an investigation on the influence of additions of deoxidants to the mould on the size of the crop is given. The experiments were carried out with a steel of the following composition %: C 0.20; Mn 0.48, Si 0.3, P 0.024 and S 0.043. A 75 or 45% ferrosilicon was used as a deoxidant. Ingots (13 tons) at the end of the boiling period before placing of the top were treated with crushed ferrosilicon (2-5mm) in quantities of 0.007 - 0.010% Si. For a comparison of the chemical non-uniformity two diametrically situated ingots were chosen, one of which was treated with ferrosilicon. Sulphur prints of their vertical cross-sections (Fig 5) and the

Card 1/3

SOV/133-58-12-6/19

Methods of Decreasing Head Crops of Heavy Ingots of Rimming Steels  
distribution of the individual elements and non-metallic  
inclusions (Fig 6) along the ingots height were made.  
It was found that a prolonged boiling of metal in moulds  
leads to overoxidation of metal and saturation of the  
head part of the ingot with sulphides, phosphorus, carbon  
and particularly with oxides (slag) which cause lamination  
during rolling of metal. Self-deoxidation of steel  
by carbon stops with the placing of tops but the head  
part of the ingots remains saturated with oxides of iron  
and manganese which have a negative influence on the  
welding of defects during rolling. An effective method  
of decreasing lamination during rolling is a decrease in  
the duration of boiling of steel in moulds and de-  
oxidation of the metal before placing tops in order to  
obtain in the upper half of the ingots the structure of  
semi killed steel. The best results are obtained using  
ferrosilicon which secures a slow deoxidation process  
and combines residual metallic oxides into a slag which  
remains on the top of the metal under the cover. It  
is advantageous to carry out the deoxidation of steel.

Card 2/3

SOV/133-58-12-6/19  
Methods of Decreasing Head Crops of Heavy Ingots of Rimming Steels

with crushed ferrosilicon added in two portions with a time interval of 1.5 - 2 minutes at the end of boiling before placing the cover. The addition should be made on to a clean metal surface. The formation of a dense peripheral layer of sufficient thickness for obtaining good surface on rolling products can be attained for large ingots of rimming steel (8 - 13 ton) by using moderate teeming velocities of 0.15 - 0.20 m/min.

There are 7 figures.

ASSOCIATION: Metallurgicheskiy zavod im. Voroshilova  
(Metallurgical Works imeni Voroshilov)

Card 3/3

S A B I Y E U, M. P.

CHELISHCHEV, K.V.; SABAEV, N.P.; AEROSIMOV, V.V.; ORLOVSKY, V.P.;  
SUNGOTIN, B.N.; FEDOROV, L.S.

Issledovanie sostava metalla na otdelynykh  
gorizontakh po vysote rany 500-tonnoy  
martenovskoy pechi.

report submitted for the 5th Physical Chemical Conference on  
Steel Production.

MOSCOW 30 JUN 1958

SOV/133-59-6-14/41

AUTHORS: Sabiyev, M.P., Ploshchenko, Ye.A. and Mikhno, B.P.

TITLE: Mechanisation of the Removal of Slag from Slag Pockets  
of Open Hearth Furnaces (Mekhanizatsiya udaleniya  
shlaka iz shlakovikov martenovskikh pechey)

PERIODICAL: Stal', 1959, Nr 6, pp 521-523 (USSR)

ABSTRACT: On the proposal of L.D.Yupko and B.P.Mikhno, a new type of isolated removable slag pockets without walls with an independent support for the roof was developed and introduced on all gas fired furnaces of the Alchevsk Works. The design and mode of operation of the slag pockets are shown in Fig 1-3. The design consists of an independent stationary roof and movable double walled box of a rectangular cross section, both halves of which are made from plate 20 mm thick with reinforcing ribs. The two halves of the box are bolted together. Rollers are connected directly to the bottom of the box. The box is placed along the axis of the slag pocket on rails. The internal walls of the box are lined as follows: bottom loose layer - 30 mm, layer of foamed chamotte 115 mm, silica lining of the

Card 1/2

Mechanisation of the Removal of Slag from Slag Pockets of Open  
Hearth Furnaces

SOV/133-59-6-14/41

bottom ~ 195 mm, the same of the walls at the bottom - 345 mm, the same of the walls at the top - 215 mm. Roofs of the removable slag pockets are supported by water cooled plates mounted on beams and ~~fl~~ shaped columns. Under normal operating conditions the wear of roofs of slag pockets is uniform and amounts to 25 - 30 mm per campaign at 400 - 450 heats. The durability of the roofs increased from 600 - 1000 heats to 1200 - 1500 heats. The duration of repairs on transfer to removable slag pockets decreased from 7.7% of the total calendar time to 5.5% which is equivalent to an increase in the output of 5000 tons per year per furnace. There are 3 figures.

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SOV/133-59-9-8/31

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TITLE: An Investigation of the Operation of a 250 Ton Open  
Hearth Furnace Fired with Coke Oven Gas

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ABSTRACT: Possibilities of firing open hearth furnaces with a low  
pressure hot gas of a high calorific value without  
carburization are discussed. Literature data are quoted  
indicating that autocarburization of gas can be obtained  
by preheating the gas to a temperature at which  
decomposition of methane, with the partial formation of  
higher hydrocarbons and carbon particles, takes place.  
Experience in firing a 250 ton open hearth furnace with  
preheated coke oven gas of the usual pressure instead of  
a mixture of coke oven and blast furnace gas is described.  
For this purpose the cross-sectional area of the outlets  
from dog houses was reduced from 0.45 to 0.22 m<sup>2</sup> and the  
gas port was lowered. Compressed air in an amount of  
3000 to 3500 m<sup>3</sup>/hr was introduced through the back faces  
of the dog houses. The above measures permitted

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